be used after being extended out of the terminal body **210** when communication or data transmission is carried out.

[**0099**] In the portable wireless terminal **200** provided with the camera lens as described above, when the large display window **263** is oriented upward of the terminal body **210** in a state that the folder **250** is opened, even an image communication can be performed by means of the camera lens and the large display window **263** of the folder **250**. In this case, the camera lens needs not be necessarily oriented upward of the terminal body **210**, but it is obvious that the image communication is possible even when the camera lens is oriented in any direction within an angular range allowed by the large display window **263**.

[**0100**] As described above, the rotary-type hinge module according to the present invention increases the range or diversifies the modes in which the portable wireless terminal can be used, when it is employed in the portable wireless terminal, especially in the folder-type terminal. For example, proper display and camera lens, which are required in the service of providing dynamic images or image communication according to the diversification of the mobile communication, need not be disposed at a specific position of the terminal but may be disposed at various positions. Further, designs, dimensions, and particulars of the terminal may be easily modified. Moreover, the wireless terminal may be utilized in the phone mode, PDA mode, or any other modes, without a significant change in the opened or closed state of the terminal, so that a user can use the terminal more conveniently.

[**0101**] Although several preferred embodiments of the present invention have been described for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

What is claimed is:

1. A rotary-type hinge module of a portable wireless terminal, which is disposed between a terminal body and a folder of the portable wireless terminal, the hinge module having a first rotation axis and a second rotation axis perpendicular to each other, the hinge module enabling the folder to rotate about the second rotation axis after the folder is opened from the terminal body, the hinge module comprising:

a hinge housing assembled with the terminal body while being rotatable about the first rotation axis, the hinge housing having a holding pin hole formed through one end thereof and a hinge shaft hole formed through the other end thereof in a direction of the first rotation axis, the hinge housing having a fixing seat and an opening, the fixing seat being formed at a portion of an inner surface thereof in a direction of the second rotation axis, the opening formed through an opposed portion to the fixing seat, the fixing seat being exposed through the opening in the direction of the second rotation axis;

a supporting shaft fixed to the fixing seat of the hinge housing and extending through the opening of the hinge housing;

a hinge cam fixed to the supporting shaft and having at least one valley-shaped portion formed at one side thereof, the valley-shaped portion having a curved surface;

a hinge shaft having a mountain-shaped portion formed at one side thereof and a hinge shaft hole passing axially therethrough, the mountain-shaped portion having a curved surface, the supporting shaft being inserted through the hinge shaft hole so that the hinge shaft is fitted around the supporting shaft in such a manner that the curved surface of the mountain-shaped portion is opposed to the curved surface of the at least one valley-shaped portion, the hinge shaft having at least one guide protuberance formed on a circumferential surface of the hinge shaft;

an elastic means forcing the hinge shaft toward the hinge cam so that the curved surfaces of the mountain-shaped portion and the valley-shaped portion are in sliding contact with each other; and

a rotary shaft having a shape of a cylinder which has an open end and a closed end opposite to each other, the rotary shaft containing the hinge cam, the hinge shaft, and the elastic means, the elastic means being supported by the closed end of the rotary shaft, the rotary shaft having at least one guide hole with which the at least one guide protuberance of the hinge shaft is engaged, the rotary shaft having an assembling means to which one end of the folder is fixed.

2. A rotary-type hinge module of a portable wireless terminal as claimed in claim 1, wherein:

the fixing seat is formed by a concave recess in said portion of the inner surface of the hinge housing;

the hinge housing further has a fixing hole formed through a central portion of the fixing seat, the fixing hole extending from the interior to the exterior of the hinge housing; and

the supporting shaft is fixed to the fixing seat of the hinge housing by a screw screwed through the fixing hole from the exterior of the hinge housing.

3. A rotary-type hinge module of a portable wireless terminal as claimed in claim 2, wherein the supporting shaft comprises:

a fixed head formed at a lower end of the supporting shaft, the fixed head having a shape corresponding to that of the fixing seat; and

a stepped portion having an angular shape and being formed circumferentially around and radially outward from the supporting shaft, the stepped portion extending a predetermined length from the fixed head in a axial direction along the supporting shaft, wherein

the hinge cam has a hinge cam hole having a shape corresponding to the angular shape of the stepped portion of the supporting shaft, so that the hinge cam hole securely interfaces with the stepped portion, thereby fixedly assembling the hinge cam with the supporting shaft.

4. A rotary-type hinge module of a portable wireless terminal as claimed in claim 1, wherein the hinge shaft linearly reciprocates in the rotary shaft.